Abstract of the Disclosure

An apparatus and method for measuring the electrical characteristics of a semiconductor device in a packaged state, which includes an electrical characteristic measurer which is connected to an electrical element whose electrical characteristics are to be measured and to one pad of the semiconductor device. The measurer is driven in response to a control signal, and outputs a value indicative of the electrical characteristics of the electrical element to the pad. The measurer includes at least an NMOS threshold voltage measurer, an NMOS saturation current measurer, a PMOS threshold voltage measurer, a PMOS saturation current measurer, and a resistance measurer. An accurate electrical characteristic value can be obtained by measuring the characteristics of the element within a semiconductor device in a finished packaged product. In view of the accurate measurement, degradation of characteristics of the semiconductor device and malfunction thereof can be prevented.